

Material and methods: Data from the electronic hospital database regarding the consultations has been extracted and assessed to evaluate the effectiveness of direct-to-patient services provided by hospital pharmacists with clinical pharmacy specialization, focusing on the optimized patient perception of the vaccine's safety and efficacy profile.

Results: An autonomous consulting service was developed within the hospital, enabling patients to arrange consultations with hospital pharmacists. The consultations encompassed an in-depth examination of the 9-valent HPV vaccine's mechanism of action, potential adverse medication reactions, allergic responses, and requisite post-vaccination follow-up protocols. Consultations were provided at no cost, with pharmacists delivering expert advice on immunization, resolving patient inquiries, and ensuring appropriate follow-up. Patient engagement and contentment were assessed, and feedback was utilized to appraise the program's efficacy. The project generated significant interest among patients, with numerous individuals utilizing the opportunity to consult a hospital pharmacist. A reduction in vaccination-related medication mistakes was noted, resulting in safer vaccine administration. Moreover, patient satisfaction was markedly improved, with individuals indicating an elevated sense of confidence and understanding concerning the HPV vaccine. This subsequently resulted in elevated immunization rates.

Conclusion and relevance: This pharmacist-led consultation project has demonstrated efficacy in enhancing HPV vaccination rates, patient education, and overall satisfaction. The program's success indicates that analogous pharmacist-led consultations may be implemented in other vaccination initiatives, thereby improving vaccine uptake, minimizing errors, and augmenting patient care in diverse immunization settings.

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Counseling in Bulgarian pharmacies –Expectation vs Perception

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Pharmacists are crucial in delivering high-quality pharmaceutical care and improving patients' health literacy. Consultation is a process of interaction between the pharmacist and the patient, based on trust, aiming to ensure the proper understanding and use of prescribed medications.

Our study aims to explore patients' experience with counseling in community pharmacies and pharmacists' self-assessment of their counseling capabilities. Two anonymous studies were conducted among patients and community pharmacists. Each questionnaire consisted of 13 questions focused on the consultation process in pharmacies.

The results show that most patients (80%) express satisfaction with the consultations received, reflecting the pharmacists' competence in addressing patient needs and concerns. Additionally, 93% of patients report trusting their pharmacists, which is crucial for fostering a collaborative relationship that enhances medication adherence. Notably, a segment of patients (20%) feels uncertain about the usefulness of their consultations, indicating a need for pharmacists to improve their communication strategies to ensure clarity and understanding. Moreover, while 87% of pharmacists self-assess as competent in delivering consultations, many acknowledge the necessity for further training, particularly in communication skills. This highlights a discrepancy between self-perception and patient experience, suggesting that pharmacists may benefit from targeted professional development programs focused on enhancing interpersonal skills and patient engagement techniques. The desire for dedicated consultation spaces within pharmacies, expressed by both pharmacists and patients, points to the need for an environment conducive to private and effective communication. Such changes could facilitate better consultations, allowing pharmacists to address patient concerns more thoroughly and confidentially.

In conclusion, the effectiveness of consultations between pharmacists and patients is critical to improving health outcomes. By bridging the gap between patient expectations and pharmacists' capabilities, the profession can continue to advance its role as a trusted healthcare provider.

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Evaluation of drug-related problems and pharmacist interventions in the management of diabetic patients

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Background: Drug-related problems (DRPs) pose a significant challenge in the diabetes management, a chronic condition requiring complex therapeutic regimens. These issues can compromise treatment outcomes, impacting both therapy efficacy and patient safety, and potentially leading to long-term health complications. Addressing DRPs involves identifying, resolving, and preventing medication-related issues through systematic pharmaceutical care. Pharmacists play a crucial role in optimizing treatment outcomes by implementing interventions and addressing gaps in patient care.

Purpose: This study aimed to document and analyze the prevalence, types, and causes of drug-related problems (DRPs) among diabetic patients receiving standardized pharmaceutical care. It focused on evaluating pharmacist-led interventions while also providing insights into the challenges and opportunities for enhancing diabetes management through targeted pharmaceutical services.

Method: This research forms part of an ongoing project focused on counseling and pharmaceutical care for diabetic patients. Data from a total of 827 diabetic patients were systematically collected and documented using the OpenClinica software, ensuring accurate and structured data management. Drug-related problems (DRPs) were reported for 567 patients. The identification and categorization of DRPs were performed using the Serbian validated version of the Pharmaceutical Care Network Europe (PCNE) Classification for DRPs, version 9.0. Pharmacists utilized standardized checklists to gather comprehensive information on DRPs, with data collection conducted up to July 2024. Targeted interventions were implemented to address identified issues, and therapy outcomes were subsequently monitored. Descriptive statistical methods were applied to evaluate the prevalence and resolution rates of DRPs, as well as to assess the distribution and effectiveness of intervention strategies, providing a detailed analysis of the role of pharmacists in optimizing diabetes care.

Findings: In total of 567 diabetic patients DRPs have been reported. The majority were therapy efficacy problems, 76.5%, and only 6.2% safety problems. Around a third of efficacy problem were completely resolved, 37.1%, while 41.9% were partly solved. When the intervention was at the pre-scriber level only, in 52.4% of cases the problem was completely resolved, and in 19% of cases partly resolved. When the intervention was at the patient level only, in 37.5% of cases the problem was completely resolved, and in 40.3% of cases partly resolved. Majority of interventions were made only at the patient level, 56.3%, while only 12.2% at the proscribe level only.

Conclusion: The results clearly show that the interprofessional collaboration between pharmacists and prescribers in DRPs resolving brings the best healthcare outputs. However, this collaboration related to DRP is still very limited.

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Medicine shortages in public pharmacies and the provision of pharmaceutical care services

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Background: A reliable drug supply chain is the necessary prerequisite for effective pharmaceutical care services. However, pharmacists face, on a daily level, shortages of medicines and accompanying difficulties in providing optimal pharmaceutical care.

The European Medicines Agency (EMA) adopted the first list of critical medicines (CML) in the European Union (EU) in 2023 to support avoiding shortages in the EU.

Purpose (research question): The aim was to identify medicines (international non-proprietary (INN) level), in shortage in Serbia from 2021 to 2023, and to determine if the medicines in deficit were declared as critical in the CML.

Method/study design: The data sources used were reports on drug shortages from the biggest national public pharmacy chain and the EMA list of critical medicines. A dataset included monthly data on shortages, the medicine trade name, INN, the presence of the medicine at the CML, and whether an interchangeable substitute for the medicine in shortage is available. Analysis was performed in Microsoft Excel.

Findings: The total number of INNs in 2021–2023 that were in shortage were 50, 85, 126, where 30.00%, 20.00%, and 24.60% are included in the EMA CML, respectively. The longest shortages were in 2021 for lev- ofloxacin (9 months), in 2022: fluticasone propionate and salmeterol (12 months). During the whole of 2023, the following medicines were deficient: lorazepam, semaglutide,

salbutamol/ipratropium bromide, and rifampicin. The most common reasons for shortages were global shortages of the active substances and problems in production or in the supply chain.

In 2021, pharmacists were not able to substitute medicine in shortage for 86.0% of medicines (INN: 43), in 2022 for 85.88% (INN: 73), and in 2023 for 90.48% (INN: 114) since all interchangeable medicines were in deficient. For recorded deficient medicines declared in EMA CML, interchangeable medicine was not available for around 90.00% of medicines. According to local legislation, when a pharmacist cannot substitute medicine, for any reason, the pharmacist's obligation is to refer the patient to the physician.

Conclusion: Results indicate that the shortage of medicines in Serbia is becoming more frequent in recent years, potentially jeopardizing effective pharmaceutical care services and therapeutic outcomes. Bearing in mind that the EU defined its' CML, where the additional reporting requirements are introduced for marketing authorization holders, it is crucial to create CML locally and take all measures to prevent medicine shortages in the future.